



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Dana Le et al.  
Serial No. : 10/087,134  
Filed : February 28, 2002  
Title : WEARABLE COMPUTER SYSTEM AND MODES OF OPERATING THE SYSTEM

Art Unit : 2835  
Examiner : Yean-Hsi Chang

**Mail Stop Appeal Brief - Patents**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**BRIEF ON APPEAL**

**(1) Real Party in Interest**

Accenture Global Services GMBH.

**(2) Related Appeals and Interferences**

None.

**(3) Status of Claims**

Claims 1-34 are pending and stand finally rejected.

**(4) Status of Amendments**

All amendments have been entered.

**(5) Summary of Invention**

Applicants' independent claim 1 is directed to a wearable computer system, an example of which is shown in FIGS. 1A-C and 2. The system 10 includes, firstly, a computer unit 15 (see FIGS. 1A, 1B and 2) wearable by a user and, secondly, a user interface 30 and 38 (see FIGS. 1A-C and 2) having at least an audio-only mode of operation (see page 5, lines 14-17). The user interface includes an audio receiver 36 and a speaker 32, both of which are wearable by the user and connectable to the computer unit (see page 5, lines 16-19). The audio receiver 36 receives

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voice signals from the user and provides the voice signals to the computer unit 15 for processing (see page 5, lines 23-28, and page 6, lines 16-18). The computer unit 15 sends audio signals to the speaker 32 to provide output to the user (see page 6, lines 2-4).

Applicants' independent claim 10 is directed to a wearable computer system 10 that includes, firstly, a computer unit 15 wearable by a user and, secondly, a user interface 30 and 38 having an audio-only mode of operation (see page 5, lines 14-17). The user interface includes a first audio receiver 36 and a second audio receiver 38. The first audio receiver 36 is adapted to be worn by the user and is connectable to the computer unit such that the first audio receiver receives voice signals from the user and provides the voice signals to the computer unit for processing (see page 5, lines 23-28, and page 6, lines 16-18). The second audio receiver 38 is adapted to be worn by the user and is connectable to the computer unit such that the second audio receiver inputs audio signals from user's surroundings to the computer unit (see page 5, line 29 through page 6, line 9). The audio signals received by the first audio receiver 36 that do not originate with the user are filtered with an audio filter (see page 6, lines 18-28).

Applicants' independent claim 18 is directed to a wearable computer system 10 that includes an audio receiver 36 and a computer unit 15. The audio receiver 36 is wearable by a user, receives audio signals from the user, and produces a corresponding electrical signal (see page 7, lines 30-31). The computer unit 15 includes circuitry 26 that receives and digitizes the electrical signal corresponding to the received audio signal (see page 7, line 31 through page 8, line 1). The computer unit 15 also includes a processor 16 and computer memory 18 having instructions stored thereon that, when executed by the processor, perform the following operations: processes the digitized signals and recognizes spoken words therein (see page 8, lines 1-4); determines whether the recognized spoken words constitute a predetermined natural voice command that blends with the natural phrases and terminology commonly spoken by the user (see page 9, line 26 through page 10, line 28); and responds to the predetermined natural voice commands from the user by prompting the processor 16 to execute a predetermined function (see page 10, line 29 through page 11, line 13).

Applicants' independent claim 23 is directed to a method of operating a wearable computer system 10 that includes a computer unit 15 wearable by a user and a user interface 30 and 38 with at least an audio-only mode of operation (see page 5, lines 14-17). The method

includes continuously storing in a scrolling buffer (part of memory 18—see page 8, lines 9-10) audio information received by a microphone 38 that receives ambient audio information at the user's location (see page 5, line 29 through page 6, line 9). The method also includes, upon receiving an predetermined voice command (see page 9, line 26 through page 10, line 28) from the user, storing in memory 8 audio information present in the buffer (part of memory 8) for some period of time in relation to the time the audio command was received, so that the audio information stored in memory 8 may be retrieved at a later time (see page 10, line 29 through page 11, line 13).

Applicants' independent claim 29 is directed to a wearable computer system 10 that includes a computer unit 15 wearable by a user and first and second audio receivers 36 and 38. The first and second audio receivers 36 and 38 are each wearable by the user and are connectable to the computer unit 15 such that the first audio receiver 36 receives voice signals from the user and provides the voice signals to the computer unit 15 for processing, and the second audio receiver 38 receives ambient audio signals from the user's surroundings and provides the ambient audio signals to the computer unit 15 for processing (see page 5, lines 23-28, and page 6, lines 16-18). The computer unit 15 also includes a scrolling buffer (part of memory 18—see page 8, lines 9-10) in which ambient audio information received during a preceding predetermined period of time is stored (see page 5, line 29 through page 6, line 9). The computer unit 15 also includes memory 8 and circuitry (26, 16 and 18) that, upon receiving a predetermined voice command (see page 9, line 26 through page 10, line 28) from the user, stores in the memory 8 audio information present in the buffer (part of memory 8) for some period of time in relation to the time the audio command was received, so that the audio information stored in memory may be retrieved at a later time (see page 10, line 29 through page 11, line 13).

#### **(6) Grounds of Rejection to be Reviewed on Appeal**

The examiner rejected claims 1, 3-7 and 9 under 35 U.S.C. 102(e) as being anticipated by Kishida et al. (US 2002/0015008 A1) ("Kishida"). Of these claims, claim 1 is independent. The examiner also rejected dependent claims 2 and 8 under 35 U.S.C. 103(a) based on Kishida and other references.

The examiner rejected claims 10-11, 13-15 and 17 under 35 U.S.C. 103(a) as being unpatentable over Kishida. Of these claims, only claim 10 is an independent claim. In addition, the examiner rejected dependent claims 12 and 16 under 35 U.S.C. 103(a) as being unpatentable over Kishida in combination with other references.

The examiner rejected claims 18-19 and 21 under 35 U.S.C. 102(e) as being anticipated by Kishida. Of these claims, only claim 18 is an independent claim. In addition, the examiner rejected dependent claims 20 and 22 under 35 U.S.C. 103(a) as being unpatentable over Kishida, either alone or in combination with another reference.

The examiner rejected claims 23, 27-29 and 33-34 under 35 U.S.C. 103(a) as being unpatentable over Abbott et al. (US 2002/0087525 A1) ("Abbott") in view of Mitchell et al. (US 6,356,437 B1) ("Mitchell"). Of these claims, claims 23 and 29 are independent claims. In addition, the examiner rejected dependent claims 24-26 and 30-32 under 35 U.S.C. 103(a) as being unpatentable over Abbott in view of Mitchell, further in view of Strub et al. (US 6,563,532 B1).

**(7) Argument**

**(a) Claims 1-4 and 7-9 (Independent Claim 1)**

As for the Examiner's anticipation rejection of independent claim 1, the Examiner contends that Kishida discloses all of the limitations set forth in Applicants' claim. (See Final Action, 12-15-03, pages 2-3.) With regard to the claimed user interface having an audio-only mode of operation, the Examiner responded to Applicants' argument that this limitation was missing from Kishida by referring to Figures 3 and 7 of Kishida, and stating, "user interfaces 24 and 414 have an audio-only mode of operation." (See Final Action, 12-15-03, page 10.) Applicants disagree.

Kishida discloses a computer system that includes a wearable computer and a wearable display device. (Abstract.) As shown in Figures 2A, 2B and 15, all of the examples of the computer system include a headset that is provided with a display 100 and a mirror 101 (Figs. 2A and 2B). In particular with respect to Figures 3 and 7 to which the Examiner refers, the system shown in Figure 3 includes a display device 2, which includes both a voice input/output unit 24 and a visual display by virtue of a display controller 21 and a display monitor 22. In addition,

Figure 7 shows more detail of the computer 1 that is also shown in Figure 3, where the computer 1 includes a CODEC (that is, a COder DECoder) 414, which is not a user interface as the Examiner incorrectly stated in the Final Action at page 10.

Applicants continue to maintain, as they did before the Examiner, that Kishida does not anticipate Applicants' invention as set forth in independent claim 1. In particular, Kishida does not disclose a wearable computer system having a user interface having an audio-only mode of operation, as is required by claim 1. No such mode of operation is described in Kishida. Although the Examiner states that the wearable computer system has an audio-only mode of operation and makes reference to reference number 24 in Figure 3 and reference number 414 in Figure 7, the cited support does not support the Examiner's statement. First off, the voice input/output unit 24 shown in Figure 3 is not a user interface that operates in an audio-only mode of operation, as the claims require; indeed, the voice input/out unit 24 is clearly part of a user interface that has video capability in addition to the audio capability. In addition, the CODEC 414 is not even a user interface at all. Rather, it is a mere circuit that would be located internal to the device housing.

To further illustrate the fact that Kishida does not disclose an audio-only mode of operation, Kishida explains that its disclosure is directed to designs whose objective it is to provide an advantageous placement of the display controller—namely, that it be placed in the display device 2 as opposed to in the computer 1. (See Paragraphs 0007 and 0037-0040.) Where such a display is not used, as is the case with Applicants' claim 1, such a configuration as described in Kishida is not needed.

Neither does Kishida or any other reference of record render Applicants' claim 1 obvious. Applicants' configuration and its audio-only mode of operation offers advantages not taught by Kishida or any other reference. In particular, Applicants' claimed wearable computer system, as discussed on page 9, lines 3-11 of Applicants' specification, blend in with the natural environment of the user, and is minimally obtrusive to the movements and actions of the user. Also, the audio-only user interface does not require the use of noticeable visual displays, such as a visor display or an eyeglass display.

Accordingly, independent claim 1 defines an invention that is patentable over Kishida, as do dependent claims 2-9. As such, Applicants request that the rejection of these claims be removed.

(b) Dependent Claims 5 and 6

Applicants submit that dependent claim 5 (as well as claim 6 which depends from claim 5) are patentable for additional reasons beyond those discussed above with respect to independent claim 1. Dependent claim 5 depends from claim 4, which in turn depends from claim 3, which in turn depends from claim 1. The Examiner rejected each of claims 5 and 6 as being anticipated by Kishida. (See Final Action, 12-15-03, pages 2-3).

With respect to the limitations added in dependent claim 5, Applicants note that the added limitations are in a *Beauregard* format, namely computer memory having instructions that, when executed by the processor, perform a certain function recited in the claim. (*See In re Beauregard*, 53 F.3d 1583, 1584, 35 U.S.P.Q.2d 1383 (Fed. Cir. 1995).) The Examiner has failed to identify where the instructions and associated functions recited in claim 5 are performed by the device in Kishida, or are obvious in view of prior art. Instead, the Examiner has simply referred to CPU 411 in Figure 7 of Kishida as being the claimed processor, and main memory 412 in Figure 7 of Kishida as being the claimed memory. In other words, the Examiner failed to identify where the function performed upon execution of the software program instructions are found in Kishida or any other prior art.

Applicants' submit that the Examiner is not giving a proper interpretation of the claim. It is well settled that in *Beauregard* type claims, such as certain limitations of claim 5, functions recited in the claim that are performed upon execution of the instructions stored on memory are indeed limitations of the claim. (*Id.*) When all of the limitations of claim 5 are given their proper patentable weight, including the recited function that is performed upon execution of the claimed instructions, claim 5 is neither anticipated nor rendered obvious by Kishida.

Claim 5 includes particular limitations not disclosed in the teaching of Kishida. First off, Kishida does not disclose the limitation added in claim 5 of the function performed when the computer instruction is executed—causing the second audio receiver to be activated to receive audio signals when the computer unit receives a voice command from the first audio receiver. Indeed, the Examiner does not even contend that this function is performed by the Kishida

device. This feature of Applicants' claim 5 makes it possible to provide functionality not disclosed or suggested by Kishida or any other prior art, as is described in Applicants' specification, for example starting at page 11, line 1.

Accordingly, for these additional reasons dependent claim 5 defines an invention that is patentable over Kishida, as does dependent claim 6 which depends from claim 5. As such, Applicants request that the rejection of these claims be removed.

(c) Claims 10-12 and 15-17 (Independent Claim 10)

As for the Examiner's obviousness rejection of independent claim 10, the Examiner contends Kishida discloses all limitations set forth in Applicants' claim, "except a second audio receiver adapted to be worn by the user and connected to the computer unit (claim 12 [sic: 10])." (See Final Action, 12-15-03, pages 5-6.) With respect to the claimed "audio filter" that filters audio signals that do not originate with the user, the Examiner considered the control section #2 (reference number 27) of Figure 3 to be the claimed audio filter. (*Id.* at page 5.) Further with respect to the claimed "audio filter," the Examiner cited the statement at page 3 [0045] of Kishida that "the control section 27 recognizes a voice signal input from the microphone," and stated, with no support, that "[a]nyone having ordinary skill in the art would understand it not only selects (filters) but also understands the voice signals." (See Second Final Action, 2-19-04, at page 11.)

With respect to the "second audio receiver" that the Examiner conceded was not present in the Kishida device, the Examiner firstly contended that "Kishida teaches a second audio receiver (Microphone, fig. 7) connected to the wearable computer." (*Id.*) The Examiner then made the contradicting contention, with no support, that "[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the computer unit by indicating the I/O (14, fig. 3) being connected to a second audio receiver as shown in fig. 7 for the purpose of receiving audio signals from user's surroundings." (*Id.*)

Applicants submit that Kishida does not anticipate Applicants' invention as set forth in independent claim 10 for at least two reasons. First, Kishida does not disclose a wearable computer system having a user interface having an audio-only mode of operation, as is required by claim 10, and which has been discussed previously in connection with claim 1. Second, Kishida does not disclose, as required by claim 10, a wearable computer system that has two

audio receivers, where the first receiver receives voice signals from the user and provides the voice signals to the computer unit for processing and the second audio receiver inputs audio signals from the user's surroundings to the computer unit, and wherein audio signals received by the first audio receiver that do not originate with the user are filtered with an audio filter.

With respect to the second audio filter, the Examiner's reference to the Microphone shown in Figure 7 of Kishida is a red herring. There is nothing that suggests that the Microphone shown in Figure 7 of Kishida is anything other than the single microphone also shown in Figure 3. Hence, Kishida simply has no "second audio receiver adapted to be worn by the user and connectable to the computer unit such that the second audio receiver inputs audio signals from user's surroundings to the computer unit," as is required by claim 10. Further, the Examiner's unsupported contention that the control section 27 shown in Figure 3 of Kishida "not only selects (filters) but also understands the voice signals," misses the point. Claim 10 requires not just that the audio filter be any type of filter, but rather that the audio filter be a type of filter that is able to filter audio signals received by the first audio receiver that do not originate with the user, or in other words, audio signals that are not the user's voice signals. The fact that the control section 27 of Kishida selects and understands voice signals does not mean the control section 27 is a filter that filters audio signals received by the first audio receiver that do not originate with the user.<sup>1</sup>

Neither does Kishida or any other reference of record render Applicants' claim 10 obvious. First, Kishida does not suggest the advantages offered by the claimed system having an audio-only mode of operation, as has been discussed previously in connection with claim 1. Second, the addition of a second audio receiver to receive audio signals from the user's surroundings enables functionality not offered by Kishida, such as enabling the wearable computer to record someone speaking to the user. Further yet, and as is discussed in Applicants' specification at page 7, even if the user is in a noisy environment, the audio filter associated with the personal microphone filters the environmental noise and properly inputs the user's voice

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<sup>1</sup> Applicant's note that, for substantially the same reasons set forth in this section, Kishida is lacking certain limitations recited in dependent claims 3-6, thus providing additional reasons for the patentability of dependent claims 3-6.



command. As such, for example, another person's voice will generally not be mistaken for the user's voice.

Accordingly, independent claim 10 defines an invention that is patentable over Kishida, as do dependent claims 11-17. As such, Applicants request that the rejection of these claims be removed.

(d) Dependent Claims 13-14

Applicants submit that dependent claim 13 (and claim 14 which depends therefrom) are patentable for additional reasons beyond those discussed above with respect to independent claim 10. Dependent claim 13 depends from claim 11, which in turn depends from independent claim 10. Dependent claim 14 depends from claim 13. The Examiner rejected claims 13 and 14 as being obvious in view of Kishida, but did not concede that any additional limitations from claim 13 was missing beyond the limitations missing from base claim 10. (See Final Action, 12-15-03, pages 2-3.)

With respect to the further limitations added in dependent claim 13, Applicants note that the added limitations are in a *Beauregard* format, namely computer memory having instructions that, when executed by the processor, perform a certain function recited in the claim. (See *Beauregard*, 53. F.3d at 1584, 35 U.S.P.Q.2d 1383.) The Examiner has failed to identify where the instructions and associated functions recited in claim 13 are performed by the device in Kishida, or are obvious in view of prior art. Instead, the Examiner has simply referred to CPU 411 in Figure 7 of Kishida as being the claimed processor, and main memory 412 in Figure 7 of Kishida as being the claimed memory. In other words, the Examiner failed to identify where the function performed upon execution of the software program instructions are found in Kishida or any other prior art.

First, Applicants' submit that the Examiner is not giving a proper interpretation of the claim. It is well settled that in *Beauregard* type claims, such as certain limitations of claim 13, functions recited in the claim that are performed upon execution of the instructions stored on memory are indeed limitations of the claim. (*Id.*) When all of the limitations of claim 13 are given their proper patentable weight, including the recited function that is performed upon execution of the claimed instructions, claim 13 is neither anticipated nor rendered obvious by Kishida.

In addition to the reasons stated above in connection with independent claim 10, there are additional reasons why claim 13 is not rendered obvious by Kishida. First off, Kishida does not disclose the limitation added in claim 13 of the function performed when the computer instruction is executed, namely, the second audio receiver being caused to be activated to receive audio signals when the computer unit receives a voice command from the first audio receiver. Indeed, the Examiner does not even contend that this function is performed by the Kishida device. This feature of Applicants' claim 13 makes it possible to provide functionality not disclosed or suggested by Kishida or any other prior art, as is described in Applicants' specification, for example starting at page 11, line 1.

Accordingly, for these additional reasons dependent claim 13 defines an invention that is patentable over Kishida, as does dependent claims 14 which depends from claim 13. As such, Applicants request that the rejection of these claims be removed.

(e) Claims 18-22 (Independent Claim 18)

Although the Examiner has rejected independent claim 18 for being obvious in view of Kishida, the Examiner has not actually identified a claim limitation of claim 18 that he believes is not present in Kishida. That said, claim 18 is, in part, a *Beauregard* type of claim—a claim directed to memory having instructions stored thereon that, when executed by a processor, perform certain functions recited in the claim. The Examiner has failed to identify where the instructions and associated functions recited in claim 18 are performed by the device in Kishida, or are obvious in view of prior art. Indeed, the Examiner stated, “All of the structural elements in the claims are found in the Kishida reference. The specific method limitations described within the claims are given little patentable weight absent any evidence that they impart a specific structure on the apparatus.” (Second Final Action, 2-19-04, at page 11, emphasis added.)

First, Applicants' submit that the Examiner is not giving a proper interpretation of the claim. It is well settled that in *Beauregard* type claims, such as independent claim 18, functions recited in the claim that are performed upon execution of the instructions stored on memory are indeed limitations of the claim. (*See Beauregard*, 53. F.3d at 1584.) When all of the limitations of claim 18 are given their proper patentable weight, including the recited functions that are

performed upon execution of the claimed instructions, claim 18 is neither anticipated nor rendered obvious by Kishida.

In particular, Applicants submit that Kishida does not anticipate Applicants' invention as set forth in independent claim 18. For example, Kishida does not disclose the use of a predetermined natural voice command that blends with the natural phrases and terminology spoken by the user, as is required by claim 18. More specifically, claim 18 requires that the claimed instructions stored in the claimed memory include instructions that, when executed by the processor, determines whether the recognized spoken words constitute a predetermined natural voice command that blends with the natural phrases and terminology commonly spoken by the user. Although Kishida describes, in paragraph 0045, the use of voice recognition and the use of a "voice signal" that causes an operation control command to be sent to the computer 1, Kishida does not disclose the use of a natural voice command that blends with the natural phrases and terminology spoken by the user, as required by claim 18. Indeed, Kishida does not even describe the type of "voice signal" that is to be used with the Kishida system.

Neither does Kishida or any other reference of record render Applicants' claim 18 obvious. In particular, Kishida does not suggest the advantages offered by the claimed system that makes use of a natural voice command that blends with the natural phrases and terminology spoken by the user. As discussed in Applicants' specification in the paragraph extending from page 9 to 10, with the use of such a natural voice command, the issuance of a voice command by the user may be done in a way that does not disrupt the conversation. For example, the phrase, "Nice to meet you," is a standard statement that is commonly spoken during an introduction between two people. This standard phrase may be used as a natural voice command to execute a function, or series of functions, by the wearable computer system based on the event of meeting a new person.

Accordingly, independent claim 18 defines an invention that is patentable over Kishida, as do dependent claims 19-22. As such, Applicants request that the rejection of these claims be removed.

(f) Claims 23-28 (Independent Claim 23)

As for the Examiner's obviousness rejection of independent claim 23 in view of Abbott in view of Mitchell, the Examiner contends Abbott discloses all limitations set forth in

Applicants' claim, except the first audio receiver being used for receiving a voice command from the user. (See Final Action, 12-15-03, pages 8-9.) With respect to the claimed function of "continuously storing in a scrolling buffer audio information received by a microphone," the Examiner made reference to memory 172 in Figure 2 of Abbott as being the claimed scrolling buffer. (*Id.* at page 8.)

With respect to the "first audio receiver" that the Examiner conceded was not present in the Mitchell device, the Examiner contended that "Mitchell teaches a first audio receiver (116, fig. 1) being used for giving natural voice command (see col. 8, lines 57-61, and col. 9, lines 32-35)," and contended that "[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Abbott by the first audio receiver taught by Mitchell so that natural voice command can be used to control the system when hands-free is necessary." (*Id.* at page 9.) The Examiner thus concluded that claim 23 was obvious in view of Abbott and Mitchell. (*Id.*)

Applicants submit that the combination of Abbott and Mitchell does not render obvious Applicants' invention as set forth in independent claim 23. In particular, neither reference discloses, as required by claim 23, ambient audio information being continuously stored in a scrolling buffer and, upon receiving a predetermined voice command, audio information present in the buffer being stored in memory for some period of time in relation to the time the voice command was received so that the audio information stored in memory may be retrieved at a later time. Such a teaching is nowhere to be found in either Abbott or Mitchell, or any other reference of record. This feature of claim 23 not found in Abbott or Mitchell affords functionality that is nowhere suggested in Abbott or Mitchell, or any other prior art, as described in Applicants' specification beginning on line 1 of page 11.

Accordingly, independent claim 23 defines an invention that is patentable over the combination of Abbott and Mitchell, as do dependent claims 24-28. As such, Applicants request that the examiner remove the rejection of these claims.

(g) Claims 29-34 (Independent Claim 29)

As for the Examiner's obviousness rejection of independent claim 29 in view of Abbott in view of Mitchell, the Examiner, as with independent claim 23, contends Abbott discloses all limitations set forth in Applicants' claim, except the first audio receiver being used for receiving

a voice command from the user. (See Final Action, 12-15-03, pages 8-9.) With respect to the claimed function of "continuously storing in a scrolling buffer audio information received by a microphone," the Examiner made reference to memory 172 in Figure 2 of Abbott as being the claimed scrolling buffer. (*Id.* at page 8.)

With respect to the "first audio receiver" that the Examiner conceded was not present in the Mitchell device, the Examiner contended that "Mitchell teaches a first audio receiver (116, fig. 1) being used for giving natural voice command (see col. 8, lines 57-61, and col. 9, lines 32-35)," and contended that "[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Abbott by the first audio receiver taught by Mitchell so that natural voice command can be used to control the system when hands-free is necessary." (*Id.* at page 9.) The Examiner thus concluded that claim 29 was obvious in view of Abbott and Mitchell. (*Id.*)

Applicants submit that the combination of Abbott and Mitchell does not render obvious Applicants' invention as set forth in independent claim 29. In particular, neither reference discloses, as required by claim 29, ambient audio information being continuously stored in a scrolling buffer and, upon receiving a predetermined voice command, audio information present in the buffer being stored in memory for some period of time in relation to the time the voice command was received so that the audio information stored in memory may be retrieved at a later time. Such a teaching is nowhere to be found in either Abbott or Mitchell, or any other reference of record. This feature of claim 29 not found in Abbott or Mitchell affords functionality that is nowhere suggested in Abbott or Mitchell, or any other prior art, as described in Applicants' specification beginning on line 1 of page 11.

Accordingly, independent claim 29 defines an invention that is patentable over the combination of Abbott and Mitchell, as do dependent claims 30-34. As such, Applicants request that the rejection of these claims be removed.

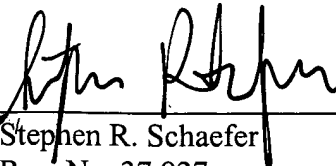
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Applicant : Dana Le et al.  
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Respectfully submitted,

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**(8) Appendix of Claims**

1. A wearable computer system comprising:  
a computer unit wearable by a user; and  
a user interface having at least an audio-only mode of operation, the user interface comprising:  
an audio receiver wearable by the user and connectable to the computer unit such that the audio receiver receives voice signals from the user and provides the voice signals to the computer unit for processing; and  
a speaker adapted to be worn by the user and connectable to the computer unit such that the computer unit sends audio signals to the speaker to provide output to the user.
2. The wearable computer system of claim 1, further comprising an earpiece adapted to be worn in an ear of the user, wherein the audio receiver and the speaker are housed in the earpiece.
3. The wearable computer system of claim 1, further comprising an audio filter that filters audio signals received by the audio receiver that do not originate with the user.
4. The wearable computer system of claim 3, wherein the audio-only user interface further comprises a second audio receiver adapted to be worn by the user and connectable to the computer unit such that the second audio receiver inputs audio signals from user's surroundings.
5. The wearable computer system of claim 4, wherein the computer unit comprises:  
a processor that processes computer instructions; and  
computer memory having computer instructions that, when executed by the processor, cause the second audio receiver to be activated to receive audio signals when the computer unit receives a voice command from the first audio receiver.

6. The wearable computer system of claim 5, wherein the voice command that is received by the computer unit is a natural voice command spoken by the user that blends with the natural phrases and terminology commonly spoken by the user.

7. The wearable computer system of claim 1, further comprising an image recorder adapted to be worn by the user and connectable to the computer unit such that the image recorder may capture an image and forward the image to the computer unit for storage.

8. The wearable computer system of claim 1, wherein the computer unit includes a GPS sensor to input location information to the computer unit.

9. The wearable computer system of claim 1, wherein the user interface further includes a video display.

10. A wearable computer system comprising:

a computer unit wearable by a user; and

a user interface having an audio-only mode of operation, the user interface comprising:

a first audio receiver adapted to be worn by the user and connectable to the computer unit such that the first audio receiver receives voice signals from the user and provides the voice signals to the computer unit for processing; and

a second audio receiver adapted to be worn by the user and connectable to the computer unit such that the second audio receiver inputs audio signals from user's surroundings to the computer unit;

wherein audio signals received by the first audio receiver that do not originate with the user are filtered with an audio filter.

11. The wearable computer system of claim 10, wherein the audio-only user interface further comprises a speaker adapted to be worn by the user and connectable to the computer unit such that the computer unit sends audio signals to the speaker to provide output to the user.



12. The wearable computer system of claim 11, further comprising an earpiece adapted to be worn in an ear of the user, wherein the first audio receiver and the speaker are housed in the earpiece.

13. The wearable computer system of claim 11, wherein the computer unit comprises:  
a processor that processes computer instructions; and  
computer memory having computer instructions that, when executed by the processor, cause the second audio receiver to be activated to receive audio signals when the computer unit receives a voice command from the first audio receiver.

14. The wearable computer system of claim 13, wherein the voice command that is received by the computer unit is a natural voice command spoken by the user that blends with the natural phrases and terminology commonly spoken by the user.

15. The wearable computer system of claim 10, further comprising an image recorder adapted to be worn by the user and connectable to the computer unit such that the image recorder may capture an image and forward the image to the computer unit for storage.

16. The wearable computer system of claim 10, wherein the computer unit includes a GPS sensor to input location information to the computer unit.

17. The wearable computer system of claim 10, wherein the user interface further includes a video display.

18. A wearable computer system comprising:  
an audio receiver, wearable by a user, that receives audio signals from the user and produces a corresponding electrical signal; and  
a computer unit that comprises:  
circuitry that receives and digitizes the electrical signal corresponding to the received audio signal;

a processor; and  
computer memory having instructions stored thereon that, when executed by the processor, perform the following operations:  
processes the digitized signals and recognizes spoken words therein;  
determines whether the recognized spoken words constitute a predetermined natural voice command that blends with the natural phrases and terminology commonly spoken by the user; and  
responds to the predetermined natural voice commands from the user by prompting the processor to execute a predetermined function.

19. The wearable computer system of claim 18, further comprising a speaker adapted to be worn by the user and connectable to the computer unit, the speaker provides data output to the user, wherein data output directly to the user consists of audio.

20. The wearable computer system of claim 19, further comprising an earpiece adapted to be worn by the user, wherein the audio receiver and speaker are housed in the earpiece.

21. The wearable computer system of claim 18, further comprising an audio filter that filters audio signals received by the audio receiver that do not originate with the user.

22. The wearable computer system of claim 21, further comprising a second audio receiver that is adapted to be worn by the user and connectable to the computer unit, wherein the second audio receiver inputs audio signals from user's surroundings.

23. A method of operating a wearable computer system comprising a computer unit wearable by a user, and a user interface with at least an audio-only mode of operation, the method comprising:

continuously storing in a scrolling buffer audio information received by a microphone that receives ambient audio information at the user's location; and

upon receiving an predetermined voice command from the user, storing in memory audio information present in the buffer for some period of time in relation to the time the audio command was received, so that the audio information stored in memory may be retrieved at a later time.

24. The method of operating a wearable computer system of claim 23, wherein the audio information stored in memory for later retrieval is received during a predetermined period of time immediately preceding receipt of the predetermined voice command.

25. The method of operating a wearable computer system of claim 23, wherein the audio information stored in memory for later retrieval is received during a predetermined period of time immediately after receipt of the predetermined voice command.

26. The method of operating a wearable computer system of claim 23, wherein the audio information stored in memory for later retrieval is received during a predetermined period of time including time occurring both before and after receipt of the predetermined voice command.

27. The method of operating a wearable computer system of claim 23, wherein the predetermined voice command is a natural voice command.

28. The method of operating the wearable computer system of claim 23, wherein the predetermined voice command is set up by the user.

29. A wearable computer system comprising:  
a computer unit wearable by a user; and  
first and second audio receivers each wearable by the user and connectable to the computer unit such that the first audio receiver receives voice signals from the user and provides the voice signals to the computer unit for processing, and the second audio

receiver receives ambient audio signals from the user's surroundings and provides the ambient audio signals to the computer unit for processing;

the computer unit further comprising:

a scrolling buffer in which ambient audio information received during a preceding predetermined period of time is stored;

memory; and

circuitry that, upon receiving a predetermined voice command from the user, stores in the memory audio information present in the buffer for some period of time in relation to the time the audio command was received, so that the audio information stored in memory may be retrieved at a later time.

30. The wearable computer system of claim 29, wherein the audio information stored in memory for later retrieval is received during a predetermined period of time immediately preceding receipt of the predetermined voice command.

31. The wearable computer system of claim 29, wherein the audio information stored in memory for later retrieval is received during a predetermined period of time immediately after receipt of the predetermined voice command.

32. The wearable computer system of claim 29, wherein the audio information stored in memory for later retrieval is received during a predetermined period of time including time occurring both before and after receipt of the predetermined voice command.

33. The wearable computer system of claim 29, wherein the predetermined voice command is a natural voice command.

34. The wearable computer system of claim 29, wherein the predetermined voice command is set up by the user.